Office Action Summary	Application No.	Applicant(s)	
	10/586,674	WANG, LAN	
	Examiner	Art Unit	
	SHEW-FEN LIN	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1,2,4-16 and 18* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1,2,4-16 and 18* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/GB/08) Paper No(s)/Mail Date *9/24/09*.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *20111001*.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

a. This action is taken in response to Request for Continued Examination filed on 12/22/2009.

b. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

c. Claims 1-2, 4-16 and 18 are pending. Claims 1 and 18 are independent claims.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 22, 2009 has been entered.

Information Disclosure Statement

The Information Disclosure Statement(s) received on 09/24/2009 is in compliance with provisions of 37 CFR 1.97. Accordingly, the Information Disclosure Statement(s) are being considered by the examiner.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-2, 4-16 and 18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With respect to claims 1, 18, Applicant has amended the claims to recite "wherein the search technique used to extract the previously received proposal uses a first mathematical formula when the latest received proposal is a proposal to edit the hierarchical classification dictionary and uses a second mathematical formula when the latest received proposal is a proposal to add to the hierarchical classification dictionary." However, such limitations are not supported by the specification. The specification is silent with respect to" a first mathematical formula" and "a second mathematical formula".

Applicant should also note that the essential goal of the description of the invention requirement is to clearly convey the information that an applicant has invented the subject matter which is claimed; and to put the public in possession of what the applicant claims as the invention. Furthermore, the written description requirement of the Patent Act promotes the progress of the useful arts by ensuring that patentees adequately describe their inventions in their patent specifications in exchange for the right to exclude others from practicing the invention for the duration of the patent's term. Indeed, the specification does not satisfy the written description requirement because the specification does not describe the claimed invention in sufficient detail

that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention.

Regarding claims 2, 4-16 depend from rejected claim 1, comprise the same deficiencies as those claims directly or indirectly by dependence, and are therefore rejected on the same basis.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-2, 4-16 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 18 recite the limitation "***the property***". There is insufficient antecedent basis for the limitation in the claims.

Regarding claims 2, 4-16 depend from rejected claim 1, comprise the same deficiencies as those claims directly or indirectly by dependence, and are therefore rejected on the same basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-13, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (US Patent Publication 2002/0046028) in view of Singh (US Patent Application Publication 2002/0152219) and Ito (US Patent Application Publication 2002/0013741).

As to claim 1, Saito teaches an apparatus for updating a hierarchical classification dictionary (See [0013] where an extracted means extracts a speech recognition dictionary belonging to a lower hierarchical level of the reference speech information corresponding to the speech recognized and a list storing means updates and stores extracted speech recognition dictionary), the apparatus comprising:

a processor (See Fig. 1 and [0034] where an apparatus capable of performing feature amount calculation, dictionary selection, speech recognition and dictionary search is a processor);

an update proposal receiving unit that receives a proposal for updating a hierarchical classification dictionary (See [0013] where a speech input is a proposal for recognizing and extracting its dictionary, storing recognized and updating the speech dictionary), the hierarchical classification dictionary having a hierarchical structure including a class that defines the hierarchical structure, the class including properties defining a hierarchical class and a set of attributes comprising groups of information fields of the class and the property (See Fig. 2 and [0055], [0056], where genre name dictionary is the class defining a hierarchy structure as its genre name property attribute details information field as station name, hospital, lodging facility,

... etc), wherein the hierarchical classification dictionary includes sub classification classes that inherit properties from upper classification classes (See Fig. 3A and [0047] where the sub-genre name dictionary is the sub classification referencing information representative of the sub-genre names belonging to each of the upper class, the genre name dictionary);

a proposal history storing unit that stores previously received proposals to update the hierarchical classification dictionary (See [0017] where speech input is stored);

Concerning an approximate proposal extracting unit that extracts one of the previously received proposals stored by the proposal history storing unit that approximates the a latest received proposal, the extracted proposal being extracted by searching the previously received proposals using a search technique to determine that the extracted proposal approximates the latest received proposal, Saito discloses input speech is stored, recognized and extracted to update a hierarchical classification dictionary as previously described and further specifically teaches using a search technique to determine that the extracted proposal approximates the latest received proposal by calculating sum of sizes of all dictionaries in the speech input meeting condition and output the dictionaries as recognized (See Fig. 5, [0085]).

Saito does not explicitly teach the rest of an approximate proposal extracting unit that extracts one of the previously received proposals stored by the proposal history storing unit that approximates the a latest received proposal, the extracted proposal being extracted by searching the previously received proposals using a search technique to determine that the extracted proposal approximates the latest received proposal other than what have described above.

However, Singh discloses an approximate proposal extracting unit that extracts one of the previously received proposals stored by the proposal history storing unit that approximates the a

latest received proposal, the extracted proposal being extracted by searching the previously received proposals using a search technique to determine that the extracted proposal approximates the latest received proposal (See Abstract, [0027], [0048], [0076], where a predetermined dictionary is based for determining if parsed words or data bit chunk of varying lengths in the dynamically created supplemental dictionary are not present there in the predetermined dictionary).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine the teaching of Singh with Saito reference by implementing a predetermined dictionary for recognizing speech input dictionaries for Saito's system because Saito is designated to reduce the number of subjects in speech input and such a predetermined dictionary would have allowed Saito to further reduce location subjects in speech input as the predetermined dictionary could have been tailored to a location dictionary.

Saito in view of Singh further teaches wherein the search technique used to extract the previously received proposal uses a [[first]] mathematical formula when the latest received proposal is a proposal to edit the hierarchical classification dictionary and uses a [[second]] mathematical formula when the latest received proposal is a proposal to add to the hierarchical classification dictionary (See Singh: [0017], [0050] where text of input file is parsed and compared to compiled hierarchical dictionaries, determined its presence in the predetermined dictionary and then created a supplemental dictionary to store) but does not explicitly discloses a first mathematical formula, a second mathematical formula, and the second mathematical formula being different than the first mathematical formula.

Ito discloses a first mathematical formula, a second mathematical formula, and the second mathematical formula being different than the first mathematical formula (Figs. 31, 32, [0019], [0020], [0310]-[0317], all subclasses of the component class C are obtained, and assigned to the list L1, RULE1, RULE2, RULE8 "a first mathematical formula" is used to check whether or not the element S in L1 exists in the element E in L2... the values of the element E, Visible_property are obtained, and assigned to the list L3, RULE4, RULE5 "a second mathematical formula" is used to check whether or not the element S in L3 exists in the element E in L4).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the teachings of Saito in view of Singh with the teachings Ito to include various rules for judging the term of the component class/property in order to provide user dictionary with a high conformity degree to a standard dictionary (Ito, [0029]).

Saito in view of Singh and Ito further teaches an approximate proposal presenting unit that presents the extracted proposal (See Saito: [0099] where the recognized dictionaries are displayed).

As to claim 2, Saito in view of Singh and Ito teaches the apparatus according to claim 1, wherein the proposal presented by the approximate proposal presenting unit contains a content of the proposal received by the update proposal receiving unit, a result of evaluation indicating one of rejection and acceptance of the proposal received by the update proposal receiving unit, a content of a comment on the proposal received by the update proposal receiving unit, and information on a degree of approximation that is a result of calculation of the degree of

approximation (See Saito: Figs. 1, 5-6, [0085]-[0086] and [0090] where a speech recognition apparatus is embodied with speech input unit, a recognition section, recognition dictionaries, storing section and display section; and similarity degree of genre name to each word of dictionary on ram is calculated for genre name recognition and only the recognized is output).

As to claim 4, Saito in view of Singh and Ito teaches the apparatus according to claim 1, wherein when the received proposal is a proposal for adding one of a new class and a new property, the approximate proposal extracting unit searches the proposal history storing unit for a past received proposal based on respective attributes of the proposal for adding, to extract the proposal that most closely approximates the proposal for adding (See Saito: [0025] where recognition dictionary is updated as reference speech information is compared to and recognized with speech inputted).

As to claim 5, Saito in view of Singh and Ito teaches the apparatus according to claim 1, wherein when the received proposal is for adding a new class, the approximate proposal extracting unit searches the proposal history storing unit for a proposal with a highest degree of similarity to a collection of properties of the proposal for adding, to extract the proposal that approximates the proposal for adding (See Saito: [0041] where new recognition result is outputted to store for updating as a second recognition result).

As to claim 6, Saito in view of Singh and Ito teaches the apparatus according to claim 1, further comprising an addition target searching unit that is configured to, when the received

proposal is a proposal for adding one of a new class and a new property, advise of an addition target where the proposal for adding is to be added, according to a location of the proposal extracted by the approximate proposal extracting unit (See [0092] where reference speech information representative of each location name is loaded to the RAM in order to make a location name of the extracted location name dictionary a subject of recognition word/phrase).

As to claim 7, Saito in view of Singh and Ito teaches the apparatus according to claim 6, wherein when the received proposal is a proposal for adding a new class, the addition target searching unit advises of the addition target according to a hierarchical structure of the proposal found as a result of search based on a part or a whole of properties of the proposal for adding (See Saito: [0017] where similar word storing means also stores similar speech reference speech information newly recognized).

As to claim 8, Saito in view of Singh and Ito teaches the apparatus according to claim 6, wherein when the received proposal is a proposal for adding a new class, the addition target searching unit advises of the addition target according to a result of comparison between a property of the proposal found as a result of search based on a content of an attribute of the proposal for adding, and a property of the proposal for adding (See Saito: [0025] where the extracted speech recognition dictionary is being updated as reference speech information to be compared and comparison is made between updated reference speech information and the input speech to thereby recognize the speech inputted).

As to claim 9, Saito in view of Singh and Ito teaches the apparatus according to claim 6, wherein when the received proposal is a proposal for adding a new property, the addition target searching unit advises that a class that defines the proposal approximate to the received proposal is presented as the addition target (See Singh: [0017] where a supplement dictionary including the parsed words that are not present in the predetermined dictionary is created).

As to claim 10, Saito in view of Singh and Ito teaches the apparatus according to claim 1, further comprising a proposal advice presenting unit that is configured to advise of a result of evaluation indicating rejection of the received proposal, when the proposal extracted by the approximate proposal extracting unit is identical with the received proposal (See Saito: Figs. 1, 5-6, [0085]-[0086] and [0090] where a speech recognition apparatus is embodied with speech input unit, a recognition section, recognition dictionaries, storing section and display section; and similarity degree of genre name to each word of dictionary on ram is calculated for genre name recognition and only the recognized is outputted).

As to claim 11, Saito in view of Singh and Ito teaches the apparatus according to claim 1, further comprising a proposal advice presenting unit that is configured to advise of a result of evaluation of the proposal extracted by the approximate proposal extracting unit as a result of evaluation of the received proposal (See Saito: Figs. 1, 5-6, [0085]-[0086] and [0090] where a speech input is seen as a proposal; and similarity degree of genre name of speech input to each word of dictionary on ram is calculated for genre name recognition and only the recognized is outputted).

As to claim 12, Saito in view of Singh and Ito teaches the apparatus according to claim 10, further comprising an evaluating and commenting unit that makes a dictionary manager evaluate and comment on the received proposal according to the result of evaluation given as advice (See Fig. 1, [0034] and [0039] where a speech recognition section evaluates speech input and a control section provides instruction for extraction is seen as advice).

As to claim 13, Saito in view of Singh and Ito teaches the apparatus according to claim 11, further comprising an evaluating and commenting unit that makes a dictionary manager evaluate and give comment on the received proposal according to the result of evaluation given as advice (See Fig. 1, [0034] and [0039] where a speech recognition section evaluates speech input and a control section provides instruction for extraction is seen as advice).

As to claim 16, Saito in view of Singh and Ito teaches the apparatus according to claim 1, further comprising the following:

a proposal draft receiving unit that receives a proposal that approximates a proposal draft (See Saito: [0020] where a speech input means to input speech which is seen as a proposal);

a simulative approximate proposal extracting Unit that makes the proposal extracting unit search for the proposal received by the proposal draft receiving unit (See Saito: [0089] where a feature amount calculation section a recognition section is for extracting recognized); and

a simulative approximate proposal presenting unit that presents the proposal extracted by the simulative approximate proposal extracting unit (See Saito: Figs. 1, 5-6, [0085]-[0086] and

[0090] where a speech input is seen as a proposal; and similarity degree of genre name of speech input to each word of dictionary on ram is calculated for genre name recognition and only the recognized is outputted).

As to claim 18, the claim is directed to a method of updating a classification dictionary executed by an apparatus as described in claim 1, and it is therefore rejected along the same rationale.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito (US Patent Publication 2002/0046028) in view of Singh (US Patent Publication 2002/0152219), Ito (US Patent Application Publication 2002/0013741), and further in view of Nitta et al. (U.S. Patent Publication 2005/0154690, hereinafter Nitta).

As to claim 14, Saito in view of Singh and Ito does not explicitly teach that the apparatus according to claim 1, further comprising a history statistics analyzing unit that generates statistics and analyzes a history of the past received proposals stored in the proposal history storing unit.

However, Nitta teaches a history statistics analyzing unit that generates statistics and analyzes a history of the past received proposals stored in the proposal history storing unit (See [0285] where statistics checking step that carries out usage-related statistics processing of the categories in the semantic information dictionary and category dictionary information).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to further combine the teaching of Nitta with Singh and Saito, Ito

references by incorporating Nitta's text mining method designated to improve utilization efficiency and flexibility which would have improved efficiency of Saito's system because all three systems are dedicated to hierarchical dictionary processing and the combined teaching would have improved speech recognition as the recognition process heavily involves texts mining, comparison and extraction from dictionaries.

The combined teaching of Nitta, Singh, Ito and Saito references further teaches a reuse proposal presenting unit that extracts a past received proposal to reuse from the proposal history storing unit according to the statistics and the analysis of the history, notifies a proposer of the reuse, and presents the proposal to reuse (See Nitta: [1088] and [1099] where operation history are collected for each text mining operation for automatic analysis; Singh: [0017] where text of input file is parsed and compared to compiled hierarchical dictionaries, determined its presence in the predetermined dictionary and then created a supplemental dictionary to store and for reuse).

As to claim 15, Saito in view of Singh, Ito and Nitta teaches the apparatus according to claim 14, further comprising a degree-of-attention presenting unit that presents a class, a property, and an attribute with a high degree of attention based on the statistics and the analysis of the history (See Nitta: [1088] and [1099] where operation history are collected for each text mining operation for automatic analysis).

Response to Amendment and Remarks

Applicant's arguments based on newly amended features with respect to claims 1 and 18 have been fully and carefully considered but are moot in view of the new ground(s) of rejection. Refer to the corresponding sections of the claim analysis for details.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shew-Fen Lin whose telephone number is 571-272-2672. The examiner can normally be reached on 8:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Shew-Fen Lin/
Primary Examiner, Art Unit 2166
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